

Patent Claims

1. A drive disk for high-efficiency friction pairings for use in hoists, i.e. for wire cable drives and the like, consisting of a drive disk base body (1), drive disk rim (2) and grooves (3) in the outer surface of the rim 2 for guiding the cable,
characterized by the fact that for improved force transmission between grooves in the drive disk rim (2) and cable (4) along the peripheral line or a special rim structure (3) spaced rim segments (5) are inserted into the drive disk rim (2) as segments of different materials of the groove track and alternating with the rim segments (5) high-energy magnets are inserted as inlays (6), the materials for the rim segments (5) being, for instance, foamed steel materials and/or fiber composite ceramics and the like of increase values of friction.
2. The drive disk of claim 1, characterized by the fact that the grooves (3) in the drive disk rim or in the rim segments (2) are structured as round grooves or undercut round grooves.
3. The drive disk of claim 1 or 2, characterized by the fact that the rim segments (5) inserted into the groove track (3) preferably are structured as circular segments and that they are inserted into fitting positive recesses of the drive disk rim (2) in conformity with the surface.
4. The drive disk of one of claims 1 to 3, characterized by the fact that the arrangement of the high-energy magnets as inlays (3) is carried out in the groove track (3) such that the axis of the magnetic field and, thus, of the magnetic force, is directed radially.

5. The drive disk of one of claims 1 to 4,
characterized by the fact that
the rim segments (5) and the inlays (6) are arranged alternately and
displaced from each other by peripheral angle α along the 360°
peripheral line of the groove track(s) (3).
6. The drive disk of one of claims 1 to 5,
characterized by the fact that
a plurality of groove tracks (3) with rim segments (5) and/or inlays (6)
are arranged in an axial direction of a correspondingly wide drive disk
(1).
7. The drive disk of one of claims 1 to 6,
characterized by the fact that
the base body of the drive disk (1) is made of grey cast iron or cast
steel or steel or suitable composite materials or polymeric material and
that a drive disk rim (2) of corresponding size made of grey cast iron or
alloyed cast iron or cast steel or alloyed cast steel or foamed steel or
special ceramics or special polymeric material is mounted on the drive
disk wheel body in an expansion proof manner with recesses spaced
from each other for receiving the high-energy magnets (6).
8. The drive disk of one of claims 1 to 7,
characterized by the fact that
by widening the drive disk (1) in an axial direction a drive drum for
mechanical endless conveyers is generated being of a basic structure
like the drive disk and that the rim segments (5) and inlays (6) may be
arranged in axial direction over the width of the drive drum.